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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/714,866

11/18/2003

Kimihiro Saito

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7590

08/23/2006

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EXAMINER

HALEY, JOSEPH R

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/714,866	SAITO ET AL.	
	Examiner	Art Unit	
	Joseph Haley	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Yamamoto et al. (US 5577017).

In regard to claim 1, the applicant's admitted prior art teaches an optical pickup device including a condenser lens composed of a solid immersion lens having a spherical surface portion and a flat surface portion parallel to the surface of an optical recording medium, said condenser lens having a numerical aperture greater than 1 (fig. 1 element 2), a bundle of rays in a predetermined polarized state being irradiated on said optical recording medium from a light source through said condenser lens (fig. 1 elements 3 and 1 see also paragraph 28 lines 3 and 4) and a polarized state component perpendicular to the polarized state of reflected light obtained when a distance between the surface of said optical recording medium and the flat surface portion of said solid immersion lens is zero is detected from reflected light from said optical recording medium to obtain a signal corresponding to the distance between the surface of said optical recording medium and the flat surface portion of said solid immersion lens (see paragraph 47), but does not teach a beam splitter for reflecting both of a p-polarized light component and an s-polarized light component in reflected

lights from said optical recording medium; dividing means for dividing incident light into the p-polarized light component and the s-polarized light component reflected by said beam splitter; and photo-detecting means for separately detecting the p-polarized light component and the s-polarized light component separated by said dividing means.

Yamamoto et al. teaches a beam splitter for reflecting both of a p-polarized light component and an s-polarized light component in reflected lights from said optical recording medium (fig. 8 elements 22); dividing means for dividing incident light into the p-polarized light component and the s-polarized light component reflected by said beam splitter (fig. 8 element 2); and photo-detecting means for separately detecting the p-polarized light component and the s-polarized light component separated by said dividing means (fig. 8 elements 4 and 39). Yamamoto et al. teaches using p- polarized light for error signals and s-polarized light for reproduction signals).

The two are analogous art because they both deal with the same field of invention of recording on optical media.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of the applicant's admitted prior art with the detecting means of Yamamoto et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of the applicant's admitted prior art with the detecting means of Yamamoto et al. because it would reduce the number of beam splitters used.

In regard to claim 5, the applicant's admitted prior art teaches a recording and reproducing apparatus for recording and/or reproducing an optical recording medium

by using an optical pickup device including a condenser lens composed of a solid immersion lens having a spherical surface portion and a flat surface portion parallel to the surface of said optical recording medium, the condenser lens having a numerical aperture greater than 1 (fig. 1 element 2), comprising: drive means for adjusting a distance between said optical recording medium and said flat surface portion of said solid immersion lens (see fig. 1 gap error signal); but does not teach optical pickup device comprising a beam splitter for reflecting both of a p-polarized light component and an s-polarized light component in reflected lights from said optical recording medium (fig. 8 elements 22), dividing means for dividing the p-polarized light component and the s-polarized light component reflected by said beam splitter (fig. 8 elements 2) and photo-detecting means for separately detecting the p-polarized light component and the s-polarized light component divided by said dividing means (fig. 8 elements 4 and 39) and control means for controlling the adjustment state of said drive means based upon a detected signal obtained when light intensity of one polarized component detected by said photo-detecting means is detected as a signal corresponding to the distance between the surface of said optical recording medium and the flat surface portion of said solid immersion lens (fig. 8 element 6 Yamamoto et al. teaches controlling focus and tracking with the p-polarized light. Focus control moves the lens up and down therefore decreasing the gap).

In regard to claim 6, Yamamoto et al. teaches reproducing means for reproducing information from said optical recording medium based upon the other polarized light component detected by said photo-detecting means (fig. 8 element 39).

In regard to claim 7, see claims 1 and 5 rejections above.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Yamamoto et al. further considered with Haruta (US 5033828).

In regard to claim 2, the admitted prior art and Yamamoto et al. teach all the elements of claim 2 except a Wollaston prism.

Haruta teaches a Wollaston prism (column 2 line 39).

The three are analogous art because they all deal with the same field of invention of optics.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of the applicant's admitted prior art with the detecting means of Yamamoto et al. with the Wollaston prism of Haruta. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of the applicant's admitted prior art with the detecting means of Yamamoto et al. and with the Wollaston prism of Haruta because the angle of divergence could easily be controlled.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Yamamoto et al. further considered with Torazawa et al. (US 4993011).

In regard to claim 3, the prior art and Yamamoto et al. teach all the elements of claim 3 except a Glan-Thompson prism.

Torazawa et al. teaches a Glan-Thompson prism (column 2 lines 24 and 25).

The three are analogous art because they all deal with the same field of invention of optics.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of the applicant's admitted prior art with the detecting means of Yamamoto et al. with the Glan-Thompson prism of Torazawa. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of the applicant's admitted prior art with the detecting means of Yamamoto et al. and with the Glan-Thompson prism of Torazawa because a Glan-Thompson prism can handle high power densities.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art in view of Yamamoto et al. further considered with Sonobe et al. (US 4995724).

In regard to claim 4, the prior art and Yamamoto et al. teach all the elements of claim 3 except wherein said dividing means is a polarizing and dividing grating.

Sonobe et al. teaches wherein said dividing means is a polarizing and dividing grating (fig. 6 element 19).

The three are analogous art because they all deal with the same field of invention of optics.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of the applicant's admitted prior art with the detecting means of Yamamoto et al. with a polarizing and dividing grating. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of

the applicant's admitted prior art with the detecting means of Yamamoto et al. and a polarizing and dividing grating because it would reduce the number of parts.

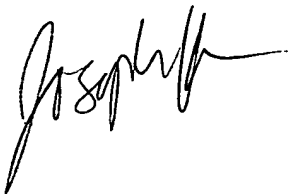
Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Haley whose telephone number is 571-272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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